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NIKE-HERCULES HIGH ALTITUDE
SURFACE-TO-AIR MISSILE
UNITED STATES

GUIDELINE HIGH ALTITUDE
SURFACE-TO-AIR MISSILE
USSR

1. WEAPON CATEGORY:

US ARMY SURFACE-TO-AIR MISSILE.

SURFACE-TO-AIR --SA-2.

2. PRODUCTION:

SARATOV PLANT 292. THIS PLANT HAS BEEN IDENTIFIED AS THE PRODUCTION FACILITY FOR THE SA-2 GUIDELINE MISSILE BASED ON THE IDENTIFICATION OF SA-2 MISSILE CANISTERS ON TALENT PHOTOGRAPHY.

3. RESEARCH & DEVELOPMENT:

THERE IS EVIDENCE THAT THE SA-1 (GUILF) AND SA-2 MISSILES WERE DEVELOPED BY THE DESIGN BUREAU OF S.A. LOV-CHIKIN AT AIRCRAFT PLANT 301, MOSCOW/1 VNIKI. THE SIMILARITY OF DESIGN BETWEEN THE SA-1, SA-2, SA-3, AND GRIFFON MISSILES INDICATE THAT THIS DESIGN BUREAU IS PROBABLY RESPONSIBLE FOR THESE AND POSSIBLY OTHER AIR DEFENSE MISSILE SYSTEMS. FLIGHT TESTING AND PROG... EVALUATION IS CARRIED OUT AT THE S... AND LAUNCH

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COMPLEX, KAPUSTIN YAR MISSILE TEST
CENTER.

4. TROOP TRAINING:

ALTHOUGH THERE ARE NUMEROUS SA-2 SAM TRAINING SITES THROUGHOUT THE SOVIET UNION, THE LARGEST TRAINING FACILITY IS LOCATED AT THE KORDON SAM TRAINING FACILITY.

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5. DEPLOYMENT:

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THE SA-2 SYSTEM HAS BEEN DEPLOYED TO ALL PARTS OF THE SOVIET UNION. IT IS PRESENTLY DEPLOYED IN POINT AND ZONAL DEFENSE SYSTEMS AT OR NEAR STRATEGIC INDUSTRIAL AND MILITARY INSTALLATIONS AND DEFENSE POPULATION CENTERS, (I.E. 4 SAM SITES AROUND KHARKOV) AS WELL AS WITH TACTICAL MILITARY UNITS IN THE FIELD, AND IN PERIPHERAL DEFENSE SYSTEMS ALONG THE BORDERS AND COASTS OF THE COUNTRY. IT CONSTITUTES THE MAJOR AIR DEFENSE MISSILE SYSTEM OF THE EAST EUROPEAN SATELLITES AND OF COMMUNIST

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CHINA, NORTH KOREA, NORTH VIETNAM,
 INDIA, CUBA, EGYPT, YUGOSLAVIA, AND
 INDONESIA.

6. MISSILE DESCRIPTION:

THE GUIDELINE IS A TWO-STAGE COMMAND-GUIDED MISSILE. IT UTILIZES A SOLID PROPULSION BOOSTER STAGE AND A LIQUID PROPULSION SUSTAINER STAGE. THERE ARE AT LEAST THREE MODELS OF THE GUIDELINE (DESIGNATED MARK I, II, AND III). THEY HAVE MINOR EXTERNAL VARIATIONS. TECHNOLOGICAL IMPROVEMENTS AND CHANGES IN THE FORWARD CANARDS AND REAR FINS APPEAR TO HAVE BEEN INCORPORATED IN EACH SUCESSIVE MODEL IN ORDER TO IMPROVE THE AERODYNAMIC CAPABILITIES OF THE

MISSILE.

<u>SUSTAINER</u>	<u>BOOSTER</u>
LENGTH	
DIAMETER ...	
RANGE 17 NAUTICAL MILES	
ALTITUDE 85,000 FT (APPROXIMATELY)	
VELOCITY MACH 3.5	
WARHEAD HE 418 LB	

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7. SITE DESCRIPTION:

THE SA-2 SITES AS DEPLOYED ARE FAIRLY STANDARD IN APPEARANCE, ALTHOUGH MINOR VARIATIONS HAVE BEEN OBSERVED. EACH SITE CONSISTS OF SIX LAUNCH POSITIONS WHICH SURROUND A CENTRAL CONTROL COMPLEX THAT CONTAINS THE FAN SONG TRACKING AND GUIDANCE RADAR AND THE OPERATION AND POWER VEHICLES. ALSO LOCATED AT THE SITE ARE THE SPONG REST A ACQUISITION RADAR AND THE SCORE BOARD IFF IDENTIFICATION EQUIPMENT.

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8. ORGANIZATION:

THE SA-2 SYSTEM IS ORGANIZED AND DEPLOYED IN BATTALION SIZE UNITS, ONE BATTALION PER SITE IN CONTRAST TO ONE BATTERY PER NIKE SITE. WITHIN THIS STRUCTURE ARE A HEADQUARTERS, A FIRING BATTERY, AND A RADAR AND TECHNICAL COMPANY WITH A TOTAL PERSONNEL COMPLEMENT OF APPROXIMATELY 130.

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9. ELECTRONICS:

FAN SONG RADAR-TARGET TRACKING AND
MISSILE GUIDANCE.
SPOON REST A - ACQUISITION.

10. OPERATION:

THE OPERATION OF THE SOVIET SA-2
SYSTEM IS BASICALLY SIMILAR TO THAT
OF THE [REDACTED]

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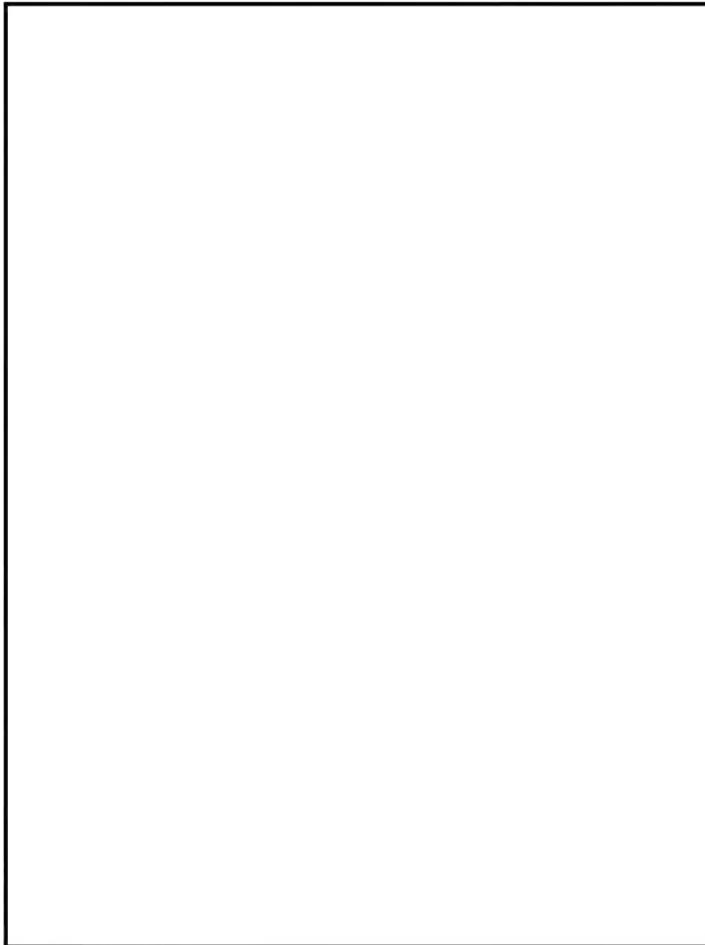
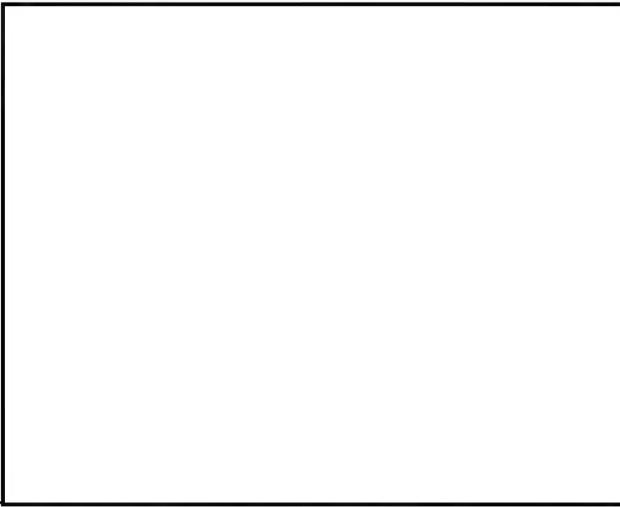
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11. CAPABILITY:

A) FAN SONG RADAR CAN TRACK ONE TARGET 25

GET BUT IT CAN DELIVER THREE MISSILES
AT THIS TARGET TO GIVE A GREATER KILL
ASSURANCE.B) FAN SONG RADAR OF THE SOVIET SYSTEM
PERFORMS THE SAME FUNCTION AS THE TARGET
GET-TRACKING RADAR, THE TARGET RANGING
RADAR, AND THE MISSILE-TRACKING RADAR

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OF THE [REDACTED] SYSTEM.

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C) THE FAN SONG RADAR IS SMALLER
THAN ITS COUNTERPART IN THE [REDACTED]
SYSTEM.

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D) CANNOT BE USED IN A SURFACE-TO-
SURFACE ROLE.

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